

Rhodora

JOURNAL OF THE
NEW ENGLAND BOTANICAL CLUB

Conducted and published for the Club, by

REED CLARK ROLLINS, Editor-in-Chief

ALBERT FREDERICK HILL
STUART KIMBALL HARRIS
RALPH CARLETON BEAN
CARROLL EMORY WOOD, JR.
IVAN MACKENZIE LAMB

} Associate Editors

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The New England Botanical Club, Inc.

Botanical Museum, Oxford St., Cambridge 38, Mass.

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REPORT

OF THE
COMMISSIONERS OF THE
LAND OFFICE
FOR THE YEAR 1881

IN RESPONSE TO A RESOLUTION
PASSED BY THE HOUSE OF REPRESENTATIVES
ON JANUARY 12, 1881

AND
A RESOLUTION
PASSED BY THE SENATE
ON FEBRUARY 1, 1881

AND
A RESOLUTION
PASSED BY THE HOUSE OF REPRESENTATIVES
ON MARCH 1, 1881

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REMARKS ON THE VIRGINIA LOCATION OF *SHORTIA GALACIFOLIA*¹

P. A. DAVIES

In the February, 1956, number of *Rhodora*, Dorothy L. Crandall published a location of *Shortia galacifolia* for Amherst County, Virginia.² This station is of interest because of its distance beyond the present known natural range of *Shortia* and because it is not associated with a formal garden.

On April 14, 1957, the writer in the company of Dorothy L. Crandall, Franklin Flint, and Mr. and Mrs. Samuel K. Roller, all of Amherst county, had the opportunity to visit and study the Virginia station. The colonies were as Crandall had described them. Plants were in flower so specimens were secured. Again on August 6, 1958, with Charles F. Moore, Brevard, North Carolina, this station was revisited, observations and measurements were again made and soil samples taken.

Crandall in her paper did not state whether she thought this station was natural or had been planted. The writer from his knowledge of the various types of *Shortia*, distribution of this plant in the Carolina mountains and elsewhere, culture requirements, and data obtained from the study of the Virginia station, believes it was planted. He places his judgment upon the following conclusions:

1. Virginia location is not the only flourishing station of *Shortia galacifolia* outside the known range. Its uniqueness lies in that no history is available as to when it was

¹ Contribution No. 29 (New Series) from the Department of Biology, University of Louisville.

² Crandall, Dorothy L., *Rhodora* 58: 38-40, 1956.

planted, by whom planted, or the source of the initial plants. Of the many scattered plantings, two are particularly outstanding, for not only are they at a greater distance beyond the natural range than the one described by Crandall but also in size and vigor are equal to or exceed it. On a west facing hemlock and oak covered hillside, as part of the Swarthmore College Campus, are two healthy patches. Charles F. Jenkins in 1942 gave the initial plants which came from a tributary of the Keowee River in Oconee County, South Carolina. The upper and larger patch, approximately five by eight feet, is more vigorous and is spreading by stolons in all directions. Measurements of stolon growth for the past two years indicate an average annual growth of from two to four inches. Separate young plants in various stages of development on the lower side of the patch show a more rapid spread in that direction through seed germination.

The other is in the garden of Mrs. Gilbert B. Mustins, Lansdowne, Pennsylvania. A steep, rocky west-facing hillside above Darby Creek was terraced with walks approximately three feet wide. Mature oak and beech trees top the slope while Rhododendrons, Kalmias and Azaleas form the cover toward Darby Creek. Between the walks are many healthy and spreading patches of *Shortia* varying in size from a few plants to more than three feet in diameter. Seeding has occurred freely and seedlings in various stages of development are distributed on the top and bottom faces between the walks. R. B. Chillas, Jr. has conservatively estimated that more than 1,000 plants are present in this garden.³

At Highlands, North Carolina and its environs, a shorter distance from the natural range than the Virginia station, are several successful plantings. T. G. Harbison made the first planting at his home in Highlands from plants he gathered along the Horsepasture River, Oconee County, South Carolina, in 1890. This has grown to be the largest known planted patch and is many times larger than the one Crandall discovered.

³ Chillas, R. B. Jr., Letter to P. A. Davies, October 16, 1958.

2. The small valley in which the Virginia station is located is not isolated, as it is known to the inhabitants of the area. It is close to Lynchburg and near well-traveled roads. Three pathways afford a ready entrance into the valley: one from the road above, another from the valley below and the third from the north. By converging they form the path which follows the small stream (Roller Creek) through the floor of the valley. Two springs at the head of the valley, one flowing mineral water, form Roller Creek. Evidence indicates that the valley has been used in the past and to some extent today, as an outing area or as a source from which mineral water can be obtained. Whoever made the planting knew the accessibility of the valley and favorable cultural conditions that were present.

3. No other location without a planting record is known to exist outside the natural range. During the past ten years, the writer has checked each patch that has come to his attention in which any doubt existed about its origin, and in every case, except Crandall's Virginia station, the source of the plants could be determined.

4. The small patches along Roller Creek are all that have been found for the area. Crandall and parties explored without success the region about Roller Creek and inquired about old gardens from which *Shortia* could have escaped. They also searched for several miles along the larger creek below Roller Valley without discovering additional plants. The writer checked the immediate hillsides above Roller Creek without finding a single source from which seeds, seedling or mature plants could have been carried or washed down to establish the plots.

5. The environment at the Crandall station is favorable for the growth of *Shortia*. However, it is no more favorable than other places in the immediate vicinity or closer to the natural range where none is present. It is more favorable than either the Swarthmore College or Mustins locations which support vigorous and expanding plots. The steep valley slopes above the patches in Roller Valley allow sufficient seepage to supply ample moisture to the limited root system and at the same time afford good drainage so necessary for survival. Leaf mold so important for the protection

of the extending rhizomes and for organic enrichment of the soil is present in adequate amount. Soil organic layer is thin but ample with a subsurface composed of loose decaying Lynchburg gneiss. Soil samples taken in the large patch and within a ten-foot radius give pH readings ranging from 4.8 to 5.1. This pH is comparable to that found along the lower part of the Toxaway River (Oconee and Pickens Counties, South Carolina) where *Shortia* is plentiful. Steepness of the valley with its small stream and the larger one close by in the valley below, maintain a moist air drift sufficient to equalize the cyclical summer and winter temperatures. Shade so indispensable for a healthy growth is present in ideal amount. Due to its deciduous nature the canopy allows enough light to reach the plants during late fall, winter and early spring while protecting them against over-exposure during the summer.

6. All patches along Roller Creek are small but healthy and expanding, indicating a short duration in this location. Had they been there for a long period one would be able to observe signs of retarded growth, which is not the case. Measurements of rhizome growth for the past two years show an annual extension of from two to four inches. This is comparable to that found in the Swarthmore College station and within the natural range in the Carolinas. Samuel K. Roller informed the writer that *Shortia* has been known in this location for about 50 years. Taking into account the possibility of unfavorable years, this period is more than sufficient for the expansion of the patch from a single planting.

The largest patch, approximately four by six feet, is the most favorably situated and is probably the original planting from which the others have originated. The next plot in size, approximately two by three feet, is situated on a small knoll close to the edge of the stream about 300 feet below the main patch. The structure of the stream bed at this place indicated that a dam was formed there creating a small pond which raised the water level to the top of the knoll. A seed or seedling carried down from the original patch and lodged on top of the knoll could have established

the clump. The other clumps are small and distributed along the stream, mostly above the original patch.

7. Davies has shown that variations exist between *Shortia* on the sources of the Keowee River (Oconee and Pickens Counties, South Carolina and Transylvania County, North Carolina) and those to the north and east on the tributaries of the Catawba River (McDowell County, North Carolina).⁴ In the former the plants are crowded in the colonies and the pistils are long in relation to the length of the mature ovaries while in the latter the plants are more openly distributed and the pistil-ovary index is shorter.

Plants in the Virginia station are crowded in the colonies and have a long pistil-ovary index which resembles closely the ones present on the tributaries of the Keowee River. It is reasonable to expect that if the Virginia station was a natural stand, the plants would resemble the closer ones on the sources of the Catawba River.

After Frank E. Boynton discovered in 1889 that *Shortia* could be obtained easily and in abundance on the sources of the Keowee River, particularly along the Whitewater River in Jocassee Valley, Oconee County, South Carolina, all the early stock for planting came from this area. After 1916 when the Toxaway Hotel was constructed it was also collected on the frequent tours that the management promoted to Bearwallow Creek in Transylvania County, North Carolina. Only in the past few years, because the distribution before this time was unknown, have collectors taken plants from the Catawba River area.

As the plants in the Crandall station, Amherst County, Virginia have been known for about 50 years, whoever made the planting must have collected the stock from the sources of the Keowee River or obtained it from a collector who gathered it from this area. — DEPARTMENT OF BIOLOGY, UNIVERSITY OF LOUISVILLE.

⁴ Davies, P. A., *Rhodora* 54: 121-124, 1952.

A NATURALLY OCCURRING F₁ HYBRID OF
MONARDA MEDIA AND M. FISTULOSA

WILBUR H. DUNCAN

On 25 June 1959 I was traveling along the highway south of Blairsville, Union County, Georgia and noticed a large colony of the relatively common *Monarda fistulosa* var. *mollis* (L.) Benth. growing along the cleared right-of-way and in the adjacent open woods. I was unable to stop but did notice, in striking contrast to all other plants of *Monarda* in the area, one circular cluster of stems which I thought was *M. media* Willd. Earlier in the day and within the previous few years I had seen this species as an ornamental at various mountain homes and occasionally escaped, or possibly native. It should be recorded that *M. media* has not been previously reported as spontaneously reproducing in the wild from Georgia.

I was able to return later in the day to the large colony of *M. fistulosa* var. *mollis* with its beautiful display of light violet corollas. There were several thousand stems scattered in such a manner that it would be possible to walk among most without trampling them. It was obvious that there were a number of instances in which a single plant was represented by a cluster of stems still connected by living rhizomes. There were a few large distinctly circular clusters in which many groups of stems were not connected to the whole by living rhizomes. It seems, therefore, that there was some development of clones from original isolated plants. It does not appear likely that the entire population was one large clone because of the occurrence of isolated circular clusters of stems, particularly at the population margins.

The deep purple corollas of the single cluster of stems previously thought to represent *M. media* seemed in even greater contrast than earlier in the day. It was soon evident that this small cluster of plants was in some ways unlike *M. media* which it at first seemed to be. The time available was very short and so I was able to make only a few notes and take specimens of both kinds of plants. I then traveled about one-fourth mile to the nearest colony

of *M. media* in the open yard of a mountain residence, examined the plants, and made a collection.

Back at the herbarium of the University of Georgia I was able to study at length the collections and notes. I came to the conclusion that the small cluster of stems was a clone perhaps only recently developed from a naturally occurring F₁ hybrid. Some stems were joined in groups by living rhizomes but separation had occurred in the 30" diameter cluster. All stems seemed to have arisen from a single plant which presumably grew from the F₁ seed. It is thought that at least one flower of *M. fistulosa* var. *mollis* must have been pollinated by some insect carrying pollen from *M. media* plants. The resultant F₁ embryo developed into a plant which is described as follows:

1. Petal color identical to that of *M. media*, deep purple (7.5p-3/9 of the Nickerson Color Fan, published by the Munsell Color Co., 1957). In the common native var. *mollis* the corollas are light violet (2.5p-6/7).
2. Calyx lobes 1 mm. long as in *M. media*. In the other they are 2 mm.
3. Leaf texture is similar to var. *mollis* which is described by Fernald (1950) as being firm in contrast to the membranaceous leaves of *M. media*.
4. The throat of the calyx tube is densely hirsute with erect white hairs as described for var. *media* by Gleason (1952). That of *M. media* is less bearded and the hairs are not white. These differences are readily evident to the naked eye.
5. Height of plants is intermediate.
6. Average leaf shape is intermediate (Fig. 1) but the sides do not gradually curve to acuminate tips as in *M. media*.
7. The vestiture at the tip of the upper lip of the corolla is intermediate between the densely villose var. *mollis* and the less prominently villous *M. media*.

Monarda × *medioides* Duncan, hybr. nov., hybrida naturalis nova inter *M. fistulosam* var. *mollem* (L.) Benth. et *M. mediam* Willd. Similis primae in textura foliorum (firmus) et pilis in gutture calycis. Similis alteri in colore petali et longitudine loborum calycis. Media in altitudine plantae forma foliorum et pilis apicem versus labiae superioris corollae.

The type (Duncan 21628) is deposited in the University of Georgia Herbarium, the colony of *M. fistulosa* var. *mollis* being represented by the collection, Duncan 21629, and *M. media* by Duncan 21630.

Monarda \times *medioides* in some respects is similar to *M. fistulosa* var. *rubra* Gray but lacks the plant height and the

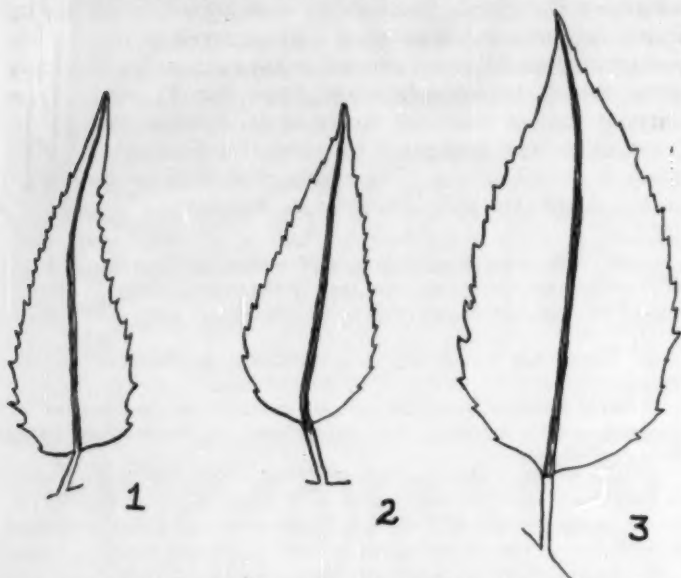


FIG. 1 Outline of average leaves of: 1. *M. fistulosa* var. *mollis*. 2. F_1 hybrid. 3. *M. media*.

pubescence attributed to the leaves and upper part of the plant (Fosberg and Artz, 1953). Furthermore, the lower lip of the corolla is pubescent.

Apparently hybridization in *Monarda* is to be expected. McClintock and Epling (1942) state that except for two species, it would appear that the whole subgenus (to which the taxa involved here belong) is a polyploid complex. They point out the occurrence of intergradation between various species. However, no close relationship nor intergradation between *M. media* and *M. fistulosa* is indicated by them.

The microscopic examination made of pollen of the parents and hybrid by Dr. Edward T. Browne is gratefully acknowledged. In *M. media* 20% of 69 grains appeared aberrant, in the other parent 28% of 219 grains, and in the hybrid 25% of 223 grains. These pollen data do not suggest a distant relationship for the two parents. However, the nature of the relationship needs to be solved. It is hoped that someone may have the opportunity, which I do not have, to attempt artificial crosses and to make backcrosses to the two parents, thus providing data concerning the compatibility of the parental types. — DEPARTMENT OF BOTANY, UNIVERSITY OF GEORGIA.

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NEW COMBINATIONS IN *THELYPTERIS*

GEORGE R. PROCTOR

In preparing an account of the ferns for a forthcoming volume on the flora of the Lesser Antilles¹, the writer is recognizing a total of 35 species in the genus *Thelypteris* for this geographic area. A number of these have not previously been formally transferred to this genus (or, in one case, was published in an illegitimate combination): the following new combinations are therefore necessary:

THELYPTERIS ABRUPTA (Desv.) comb. nov., based on *Polypodium abruptum* Desv., Mém. Soc. Linn. Paris 6:293. 1827. (Type from the West Indies without exact locality). (Not *Dryopteris abrupta*

¹ This research supported by Grant No. G-4441 from the National Science Foundation, Division of Biological and Medical Sciences, for work on the flora of the Lesser Antilles in cooperation with Dr. Richard A. Howard of the Arnold Arboretum, Harvard University.

(Kunze) Ktze., 1891). Syn. *Dryopteris pyramidata* (Fée) Maxon, Contr. U. S. Nat. Herb. 10(7):489. 1908.

THELYPTERIS CLYPEOLUTATA (Desv.) comb. nov., based on *Nephrodium clypeolutum* Desv., Mém. Soc. Linn. Paris 6:258. 1827. (Type stated to be from Jamaica, probably in error; the type specimen is labelled "in Antillis". So far as now known, this species is endemic to the Lesser Antilles).

THELYPTERIS CONSANGUINEA (Fée) comb. nov., based on *Aspidium consanguineum* Fée, Mém. Foug. 11:76, pl. 20, fig. 3. 1866. (Type from Guadeloupe, *L'Herminier in 1861*).

THELYPTERIS DELICATULA (Fée) comb. nov., based on *Phegopteris delicatula* Fée, Mém. Foug. 11:51, pl. 20, fig. 1. 1866. (Type from Guadeloupe, *L'Herminier in 1864*).

THELYPTERIS GERMANIANA (Fée) comb. nov., based on *Phegopteris germaniana* Fée, Mém. Foug. 11: 55, pl. 13, fig. 2. 1866. (Type from Guadeloupe, *L'Herminier in 1861*).

THELYPTERIS GLANDULOSA (Desv.) comb. nov., based on *Polypodium glandulosum* Desv., Berlin Mag. 5:317. 1811. (Type from the West Indies without exact locality).

THELYPTERIS HYDROPHILA (Fée) comb. nov., based on *Phegopteris hydrophila* Fée Mém. Foug. 11: 56, pl. 13, fig. 3. 1866. (Type from Guadeloupe, *L'Herminier in 1861*).

THELYPTERIS INVISA (Desv.) comb. nov., based on *Nephrodium invisum* Desv. Mém. Soc. Linn. Paris 6:257. 1827; *Polypodium invisum* Sw., Prodr. Veg. Ind. Occ. 133. 1788. (Type from Jamaica, Swartz) (Not Forst., 1786). Syn. *Dryopteris sloanei* Ktze., Rev. Gen. Pl. 2:813. 1891, based on *Nephrodium sloanei* Baker ex Hooker & Baker, Syn. Fil. ed. 2, 263. 1874 (Not Presl, 1825). *Dryopteris oligophylla* Maxon, Contr. U. S. Nat. Herb. 10(7):489. 1908. Under the present International Rules (Art. 72), Maxon's name is illegitimate because not the earliest one available for this species. *Thelypteris oligophylla* Proctor, Bull. Inst. Jamaica, Sci. Ser. 5:62. 1953.

THELYPTERIS LIMBATA (Sw.) comb. nov., based on *Aspidium limbatum* Sw., Jour. Bot. Schrad. 1800²:35. 1801. (Type from Guadeloupe, Fahlberg).

THELYPTERIS REPTANS (Gmel.) Morton, var. **TENERA** (Fée) comb. nov., based on *Goniopteris tenera* Fée, Mém. Foug. 11:60, pl. 15, fig. 3. 1866. (Type from Guadeloupe, *L'Herminier in 1861*).

THELYPTERIS RUSTICA (Fée) comb. nov., based on *Phegopteris rustica* Fée, Mém. Foug. 11:55, pl. 13, fig. 1. 1866. (Type from Ravine la Rose de Mateliane, Guadeloupe, *L'Herminier in 1861*). Syn. *Dryopteris dominicensis* C.Ch., Smiths. Misc. Coll. 52:384. 1909.
— INSTITUTE OF JAMAICA, KINGSTON, JAMAICA, W. I.

ILLINOIS FLORA: NOTES ON ERIOCHLOA AND JUSSIAEA. — During my field work in the autumn of 1958, I found a grass which is new to the Illinois flora and I obtained additional information on the distribution of *Jussiaea leptocarpa* Nutt. in Illinois.

Eriochloa gracilis (Fourn.) Hitchc. is an annual of open ground and frequently a weed in fields, which ranges, according to Hitchcock¹, from Oklahoma, western Texas and southern California, southward through the highlands of Mexico. Illinois must now be added to the known range.

On October 22, 1958, Dr. M. W. Sanderson, an insect taxonomist on the staff of the Illinois Natural History Survey, and I were collecting insects and plants in the bottomland or floodplain of the Mississippi River in southern Illinois. In the bottomland of northwestern Union County we visited a field of turnips and, while Dr. Sanderson swept for noxious insects, I collected some of the plants growing as weeds in this field and also in the adjacent field of mustard grown for greens. One of the grasses of this collection was *Eriochloa gracilis* (Fourn.) Hitchc.² Numerous individuals of this species were growing in several sizable patches. It may be that the seeds of *E. gracilis* had been accidentally introduced with the seeds of some farm crop. On November 12, I visited the field again and found that the plants of *E. gracilis* had produced numerous seeds.

Herbarium specimens, which are in the herbarium of the Illinois Natural History Survey (ILLS) and in the United States National Museum (US), have the following label data:

In a bottomland field 4 miles northwest of Ware, Union County, Illinois, October 22, 1958, R. A. Evers 59736; November 12, 1958, R. A. Evers 59753.

This occurrence of *Eriochloa gracilis* raises the number of species of this genus in Illinois to three. Two of these, *E. gracilis* and *E. contracta*, are North American; the third, *E.*

¹ Manual of the Grasses of the United States. Ed. 2.

² I wish to thank Dr. Jason R. Swallen, United States National Museum, for examining the specimens and verifying my identifications.

villosa, is Asiatic. All three have been reported in Illinois in the last decade.

In a previous article³ I reported the occurrence of *Jussiaea leptocarpa* Nutt. in two localities on the banks of the Mississippi River in Alexander County, Illinois, one in the Dogtooth Bend south of Miller City, the other at Fayville. The statement "We did not, however, observe this species on the riverbank at Thebes, about 5 miles upstream from Fayville" may have led some readers to the conclusions that Fayville was the northernmost limit of this species in Illinois. The fact is that Dr. M. W. Sanderson and I had not yet examined the riverbanks between Fayville and Thebes nor any of those north of Thebes.

In October and November, 1958, I spent 5 days along the shores of the Ohio and Mississippi rivers; Dr. Sanderson accompanied me on 3 of the 5 days. During this time I examined 15 stretches of riverbank from Bay City in Pope County, down the Ohio to its junction with the Mississippi just below Cairo and 13 northward along the Mississippi to Grand Tower in Jackson County. I observed *Jussiaea leptocarpa* in 14 of the 28 sites, 6 along the Ohio River and 8 along the Mississippi. In many of the 28 sites I found another willow primrose, *J. decurrens* (Walt.) DC., growing either alone or with *J. leptocarpa*.

Following are records of *Jussiaea leptocarpa* representing some of the specimens that have been added to the two previously cited in the herbarium of the Illinois Natural History Survey (ILLS):

ALEXANDER CO.: muddy shore of the Mississippi River southwest of Cache, October 14, 1958, *R. A. Evers 59436*; muddy shore of the Mississippi River southwest of McClure [opposite Cape Girardeau, Mo.], October 21, 1958, *R. A. Evers 59699*. JACKSON CO.: muddy shore of the Mississippi River at Grand Tower, October 22, 1958, *R. A. Evers 59748*. MASSAC CO.: muddy shore of the Ohio River at Brookport, October 15, 1958, *R. A. Evers 59504*. PULASKI CO.: muddy shore of the Ohio River at Baccus Landing, east of Grand Chain, October 21, 1958, *R. A. Evers 59651*. UNION CO.: muddy shore of the Mississippi River 4 miles northwest of Ware, November 12, 1958, *R. A. Evers, 59770*.

In the autumn of 1959, Dr. Sanderson and I plan to examine more of the muddy shores of the Ohio and Mississippi

³ Rhodora 60: 142-144. 1958.

rivers, especially north of Grand Tower on the Mississippi. *Jussiaea leptocarpa* is apparently more widespread in southern Illinois than botanists believed. To find this plant, it is necessary that the botanist be in the right place — on muddy shores — at the right time — September to November. ROBERT A. EVERS, ILLINOIS NATURAL HISTORY SURVEY, URBANA.

THE STATUS AND DISTRIBUTION OF *ELEPHANTOPUS ELATUS*. — Although *Elephantopus elatus* was described by Bertoloni in 1851, it was not considered distinct from *E. tomentosus* L. by other botanists until the beginning of the present century. The early doubt concerning the validity of this species was probably due, in part at least, to the influence of a paper published by Gray (1852) in which many of Bertoloni's binomials were shown to be mere synonyms of species described much earlier by Nuttall, Torrey, and others. Baker (1902), in a revision of the Elephantopeae, recognized the distinctiveness of *E. elatus* and reassigned it to specific status, distinguishing it from *E. tomentosus* by the denser and more coarsely pubescent glomerules and the shorter heads and pappus. Gleason (1919), too, confirmed the validity of *E. elatus*, pointing out that the trichomes on the mid-vein are forwardly appressed in this species while in *E. tomentosus* they are retrorse or spreading. In spite of these observations and the quite satisfactory key to the species of this genus provided by Gleason (1922) [but not later adopted by Small (1933)] *E. elatus* is still, in practice, seldom distinguished from *E. tomentosus*.

Concerning the distribution of these species Fernald (1950), Gleason (1952), and Small (1933) all merely report that *E. tomentosus* occurs in Florida, as Gleason (1922) and Small also report for *E. elatus*. Apparently there is no reference to the relative abundance of these species in this area or to the exact southern limits of their ranges. It is obvious, however, from certain publications (Baker, 1949; Ledin, 1951; et al.) and usage that *E. tomentosus* is accepted as the common species throughout Florida. Of the specimens examined in this study the only ones from Florida

which can clearly be assigned to *E. tomentosus* are all from the panhandle of that state (Bay, Franklin, Gadsden, Leon, Wakulla, Walton, and Washington Counties). Furthermore, the common, weedy species throughout Florida is *E. elatus* — and not *E. tomentosus*. As is indicated by the accompanying map, *E. elatus* occurs on the Coastal Plain northward from Florida into South Carolina and westward into Louisiana. It was reported by Baker (1902) from Arkansas, but its occurrence there could not be verified.



The distribution of *Elephantopus elatus* Bertol.

A few collections including some from areas (Alachua, Citrus, and Sumter Counties) south of the range of *E.*

tomentosus were encountered which have some definite characteristics of *E. tomentosus* but they cannot be properly referred to any one of the known species. These are presumably introgressants or other hybrid forms of this species and *E. elatus* and/or *E. nudatus*.

Specimens examined were kindly made available by the curators of the following institutions: UARK, FLAS, GA, GH, LA, and MO; including a specimen in the Gray Herbarium of a type collection of *E. elatus* Bertol. made by Gates from Alabama and an isotype of *E. elatus* Bertol. var. *intermedius* Gleason (a segregate not later maintained by Gleason, 1922) from Coopolis, Mississippi (Tracy 4741, MO). — C. W. JAMES, DEPARTMENT OF BOTANY, UNIVERSITY OF GEORGIA.

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THE SECOND VOLUME OF SPECIES PLANTARUM¹.

— Every taxonomic botanist knows the value and convenience of having *Species Plantarum* within easy reach but the present issue of that famous work has much in addition to the original work. In my review² of Volume I, I tried to emphasize the richness of Mr. Stearn's introductory material. Now it is equally appropriate to focus attention upon the Appendix of the newly issued Volume II. The first sixty-eight pages of the one hundred and forty-eight page Appendix are devoted to "an index and bibliography interpreting and amending the abbreviated references to authorities by Linnaeus in the first edition of *Species Plantarum*" prepared by J. L. Heller. The intricacies and inconsistencies of the literature citations in *Species Plantarum* are a severe hurdle for the average user of this work. One is fairly frequently led astray by some quirk of citation not easily determined and only after much struggling does he manage to return to the correct path of search. Heller's meticulously prepared notations should go far to help the unwary find his quest when looking for a Linnaean reference.

Mr. Stearn's contributions to the Appendix include a section of notes on illustrations and a section of four supplementary Linnaean publications including *Methodus* (1736), *Demonstrationes Plantarum* (1753), *Genera Plantarum* (1754) and *Ordines Naturales* (1764). In addition, he has provided a most useful index to the classes, genera and species of both Volumes I and II whereby, through a series of different symbols, the reader is given considerable information and led to many references on the typification of the genera.

All botanists are indebted to Mr. Stearn and the Ray Society for making *Species Plantarum* again available, but the added material at the beginning of Volume I and at the end of Volume II are alone worth what we are asked to pay for the entire work. — REED C. ROLLINS, GRAY HERBARIUM OF HARVARD UNIVERSITY.

¹ *Species Plantarum* by Carl Linnaeus. A Facsimile of the first edition, 1753. Volume II, with an appendix by J. L. Heller and W. T. Stearn. Publication No. 142 of the Ray Society, London, 1959. Sold by Bernard Quaritch Ltd., 11 Grafton St., London, W. 1. 43s.

² *Species Plantarum* — More than a Facsimile Edition, *Rhodora* 60: 59-60, 1958.

Volume 61, number 731, including pages 275-296, was issued November 24, 1959.

ERRATA

- Page 53, line 15, for **Bartonica**, read **Bartonia**.
Page 55, line 9, for **Batonia**, read **Bartonia**.
Cover, No. 724, for *A. R. H. Hodgdon*, read *A. R. Hodgdon*.
Page 88, for line 6, substitute the following: *Sporidesmium* and 15
species of *Stigmella* that I have exam-
Page 88, line 10, for *stigia* read *stygia*, and for *kastenii* read *karstenii*.
Page 117, line 3, for *melanopa*, read *melanopus*.
Pages 153 and 155, running head, for *Pokentilla*, read *Potentilla*.
Cover, No. 726, for **Paucedanum**, read **Peucedanum**.
Page 181, running head, for *Paucedanum*, read *Peucedanum*.
Page 210, line 9, for *Pleistocene*, read *Pleiocene*.
Cover, No. 729, for 248 read 247, for 249, read 248, for 250, read 249.

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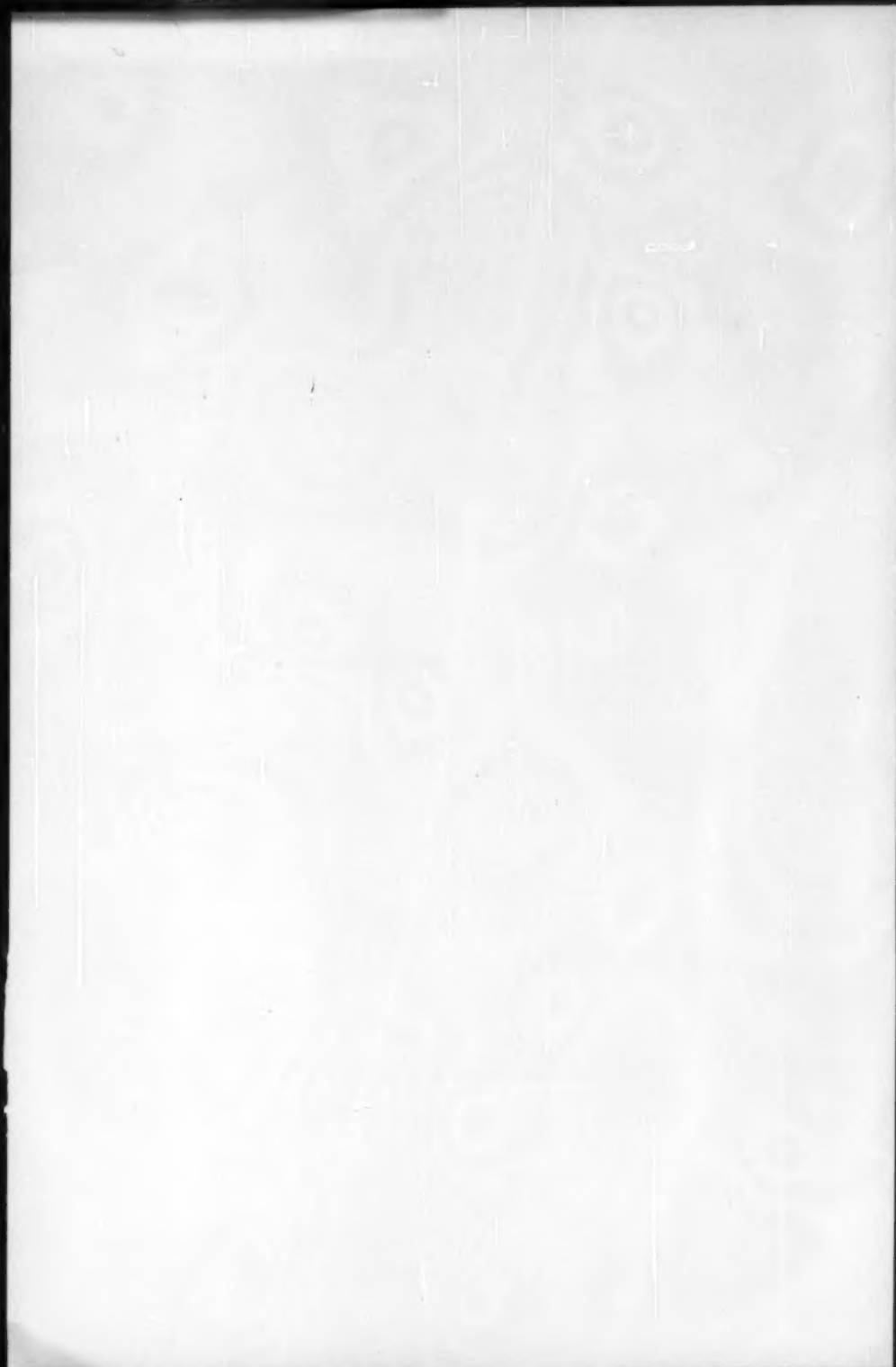
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